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The role of govt policy in facilitating investment in forestry – local and national issues

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ABSTRACT

This paper examines some issues associated with taxation, carbon trading and biofuels as 'global' policies. Whilst taxation is a national concern, it can be used as a tool to enhance the effectiveness of carbon trading as means of achieving reduced CO_2 emissions. Taxation is used to provide taxation benefits for research and development of improved technology, reducing investment cost by greater depreciation rates and investment incentives to mention a few. Taxation does increase the level of plantation establishment and in Australia the use of Managed Investment Schemes have proven to be particularly successful. Other sectors of the community question whether the increased establishment of monoculture plantations is a success at the local level. The need to do something about climate change has been accepted internationally although what and how to do it is still subject to much debate. This paper highlights that although a common international approach is called for, some issues such as different trading systems and criteria create ambiguity. The European Union's call for greater use of biofuels is visited but regarded by some as an example of well intentioned policy being adopted but for various reasons has created problems such as deforestation on a localised basis.

INTRODUCTION

Policy decisions are made at various levels of Municipal, State and Federal government and should ideally be of benefit to the community as a whole rather than directed at individuals or firms making decisions at the micro level in their attempt to maximise personal wealth. This does not necessarily mean that all stakeholders will be better off after the policy has been developed.

The Australian Taxation Office (ATO) as a federal government department develops policies, some of which relate to primary industries. In this regard agricultural managed investment schemes, and specifically forestry investment schemes, which provide taxation benefits for investors and thus encourage investment by suburban non-tenant farmers, are regularly advertised towards the end of the financial year (30 June). The adoption of a policy allowing the development of a carbon credits market has implications not only for those CO_2 emitting industries located throughout the world who buy carbon credits, but can also have severe social and economic impact on the local communities where the underlying biomass (trees and other crops) is established. Similar international impacts are encountered with the greater use of biofuels.

For some, these policies are regarded as appropriate mechanisms to get trees in the ground but when the wider implications are examined, the policies may sometimes be questionable. Is the environment necessarily better off? Is the planting of managed widespread monocultures appropriate for rural communities and is the rural community better off from an economic and social perspective? On the other hand for small-scale farm forestry where small areas are planted, in many instances using mixed species, this may prove to be the catalyst which allows the landowner to make plantation forestry become a financially sound alternative to other land uses.

In many areas of the biological sciences there has been a call for a systems approach inclusive of all stakeholders in policy development. For instance, the planting of tress on slopes may have wider implications such as improved watershed management, soil erosion containment, increased improved

environmental benefits as well as economic benefits such as job creation in the establishment, maintenance and harvesting of the trees together non-timber benefits the community may derive from the forests. Benefits derived from farm forestry include income from wood products, control of dryland salinity and water logging, soil erosion prevention, provision of shade and shelter and stock feed, nature conservation and improved aesthetic appeal, and yet the direct financial benefits may be insufficient to pay for tree establishment (van Bueren *et al.*, 2002).

An inclusive consultative approach should be applied to areas of policy development such as taxation policy (national) or carbon trading (international) which can have a high impact on the forestry sector. However, unless policy developers are aware of the broader implications of the policy they are developing, the outcomes could be both broader and less productive than initially visualised and may, in some instances, even be negative at the local level.

Research relating to incentives for farm forestry and the social aspects of farm forestry has been undertaken and reported by various researchers such as Herbohn, J.L. *et al.* (2005a) and Herbohn, J. *et al.* (2005b) (Australia) and Janota and Broussard (2008) (USA). Likewise, broader geographical and comparative studies such as those by Whiteman (2003) and Enters *et al.* (2003) have been undertaken. Studies into areas such as landholder typologies for resource management programs (Emtage *et al.*, 2006) and socio-economic impacts of farm forestry (Tonts *et al.*, 2001) provide valuable input into the policy-making process.

van Bueren *et al.* (2002) indicated that research shows that policies combining all three types of incentives (People, Security and Finance), as shown in Figure 1, are more likely to be effective in cost and environmental outcomes than single category tools.

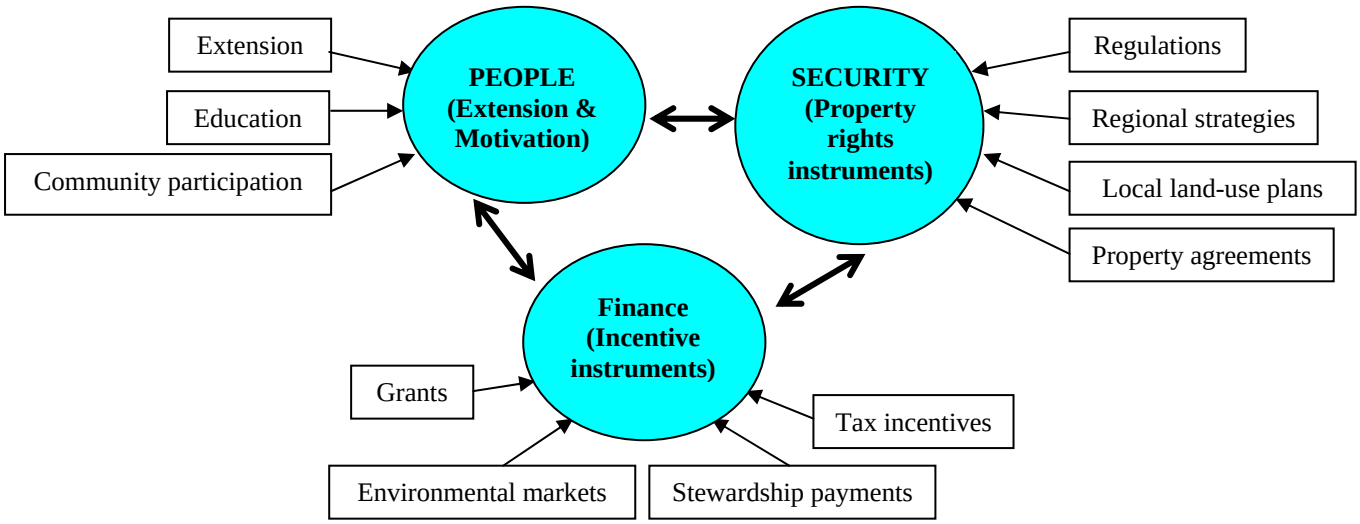

Figure 1: Policy tools used to promote farm forestry
Source: van Bueren *et al.* (2002)

However, as stated by Cummine (2007) – as National Policy Director of Australian Forest Growers – 'Achieving government policy initiatives and reforms can be a tedious process. Sadly it can be less dependent on the logic and merits of the policy itself than on the controlling interests of the local council, the number of marginal rural electorates, the timing of elections, the favours owed by one Minister or political faction to another, and the ebb and flow of relative power among Ministers and their departments and the "interest groups" that lobby them' (Cummine, 2007, p.1).

This paper initially examines taxation policy with respect to forestry managed investment schemes (MIS) in order to highlight the broader implications of the existing policy. In a similar vain, the

potential broader implications of a policy on carbon trading is examined as is the associated policy of biofuel usage.

TAXATION POLICY AND FORESTRY MANAGED INVESTMENT SCHEMES

Taxation policy is by its very nature regarded as national rather than international. What have been the implications of the implementation of national taxation policy with respect to the forestry sector in Australia? This one sector of agriculture is perceived to have received preferential taxation treatment.

The general taxation policy for forestry is essentially no different to other types of business. For commercial tree growers there are no additional benefits and trees are simply viewed as an alternative crop. van Bueren *et al.* (2002) reported that RIRDC research shows that of nine case studies of farms that incorporated farm forestry into their operations five would increase their income, a further two had neutral outcome and one would experience a substantial decrease in income. Unlike annual crops such as wheat which would be planted and harvested within a financial period, the tax deductibility of the majority, and in many cases all, of the tree establishment costs incurred early in its production cycle, acts as an incentive to plant trees. Taxation of the forestry sector is well documented by various authors, including Smorfitt *et al.* (2001), Cummine (2002a) and Cummine and Cannon (2006). Potential tree growers will assess the financial impact that tree growing may have on the whole of farm income to decide whether or not to proceed.

Abetz (2007) as Australian Minister for Fisheries, Forestry and Conservation stated that as per the joint industry and government initiative, *Plantations for Australia: the 2020 Vision*, a target of three million hectares of plantation by 2020 was set. ABARE (2007) reported the Australian plantation area reached 1.8 M ha in 2006, of which coniferous plantings accounted for 55.6%. However, plantation establishment by year shows that in 2006, broadleaf plantings accounted for 85.8% of the plantation established and coniferous species only 14.2%. Abetz (2007) argued that taxation incentives are the best way of achieving the forest policy objective of expanding the plantation resource.

Managed Investment Schemes (MIS) are not unique to forestry having been used for a variety of agricultural crops, including olives, timber, grapes, almonds, mangoes and even cattle. The question is whether MIS receive any special treatment and if so what the implications are. What is it that ensures investors are willing to commit substantial sums of money to MIS resulting in the establishment of 'urban farmers' as an investment class? Would this investment finance be available from urban investors if the real or perceived taxation benefits were not present?

According to Cummine (2002b), investors in forestry MIS are deemed to be conducting a small-scale primary production business. The investor (theoretically a farmer) pays lease and management fees to a plantation manager to plant, manage and harvest the crop (trees) with tax being paid on the income earned from the harvest proceeds. However, with forestry a large portion of expenditure is incurred as plantation establishment costs while most income is received at final harvest. Importantly, any expenditure resulting in a loss in the establishment year of the plantation can be offset against other income under the Commissioner's discretion under the non-commercial business tax loss provisions which has been forthcoming. This generally means that a large write-off (often 100%) is provided to investors in the year of establishment and the higher their marginal tax rate the higher the taxation benefits.

The role taxation plays in providing revenue for MIS was reflected in the 70% reduction in the establishment of plantations when the Australian government adjusted the prepayment rules for forestry MIS in 1999 (Taxpayers Australia, 2006). The 2002 reinstatement of the prepayment has seen the rate of forestry MIS-supported planting recover. Cummine (2005) reported that the federal government agreed to the prepayment rule being extended to 2008 as recommended by two independent reports (Centre of International Economics (CIE) and URS Forestry and ACIL Tasman),

with the CIE report concluding that investment in plantations could drop by 40% without the prepayment rule.

Forestry MIS have resulted in the development of an ever-expanding forestry sector primarily focused on monoculture plantings of short-rotation eucalyptus species geared towards low-value pulp wood or wood chip. According to ABARE (2007) 51% of the 27 M cubic metre log volume harvested is for pulpwood. Henschke (2006) indicated that plantation investment projects received $765M in the 2004-05 financial year at an average investment of $63,000. The initial Western Australian plantations being harvested have provided a return of about 5% (Henschke, 2006). More recently there has been MIS investment in forestry aimed at sawn timber.[1]

There is the suggestion that local input into policy development can be achieved through local councils' use of planning legislation to restrict land use practices. However, this is not always an option where local planning legislation has not kept up with changes in the legislative and economic environment resulting in local councils wanting to – but not being able to – restrict plantation establishment in their areas and having no option but to approve all applications (Henschke, 2006).

Some protagonists of MIS suggest that MIS are not market-orientated and the MIS earn their income from getting investors to subscribe rather than from harvest revenue. For instance, Denholm (2006) and Adams (2007) commented on the impact MIS on the wine industry. According to Adams (2007), albeit that Australia was experiencing a historical high grape glut, companies including Great Southern Plantations were expected to plant up to 1,000 ha of grapes in 2007. Proponents of forestry MIS including Cummine have emphasized that the investment money has to be placed in a trust and is used over the duration of the project to manage the project and undertake all activities to bring the project to a successful completion.

There is no doubt that while commercial forestry businesses do not specifically receive special treatment, the tax treatment of forestry MIS does result in reduced initial taxation for investors of the project. Whilst the MIS must show they are at least theoretically profitable before receiving any private tax ruling (i.e. provide evidence that they are a genuine business), revenue and profits for investors will be in the distant future and ideally planned for when the taxpayers has a lower income such as once retired. Taxation cannot be the only policy used to achieve the desired outcome when it comes to plantations but rather, as indicated by Cummine (2002b), there needs to be other policy and planning frameworks, and broadscale planning and zoning rules, and taxation should be seen as a complementary tool rather than the fundamental land-use planning tool.

The relevance of taxation concessions as a policy instrument is obviously not only restricted to Australia but has the potential to be used in all countries and in this sense may be regarded as a global policy. Whiteman (2003) described the effect of poorly targeted tax incentives in Scotland during the 1980s and 1990s resulting in taxation being based on the rental value of the land rather than the income from the timber plantations. This resulted in tree planting reaching an annual 30,000 ha. Further, trees were planted in areas with low land value some of which held high wilderness and conservation value which was highlighted by the draining of 'flow country' of northern Scotland for the planting of even-aged monocultures of non-native tree species.

CARBON TRADING AND BIOFUEL POLICY

Global warming is generally regarded as an international problem requiring an international solution, but one that most definitely has local impacts. Although Australia's greenhouse gas emissions were estimated at 1.4% of the world emissions in 2005, the per capita emissions were the third highest of the OECD countries. If estimates of the impact of global warming are correct, then to 'continue with business as usual' and do nothing to reduce emissions has severe implications for all countries and

[1] African Mahogany has been adopted as a species to be planted in the case of North Queensland.

their citizens. Figure 2 provides an indication of Australian (2005) greenhouse gas emissions by sector, with energy generation accounting for the greatest proportion. The Australian 2005 sector emission figures are not all that different to the international figures provided by Stern (2006) which are power (24%), transport, agriculture and industry (14% each), land use (18%), buildings (8%), other energy related (5%) and waster (3%).

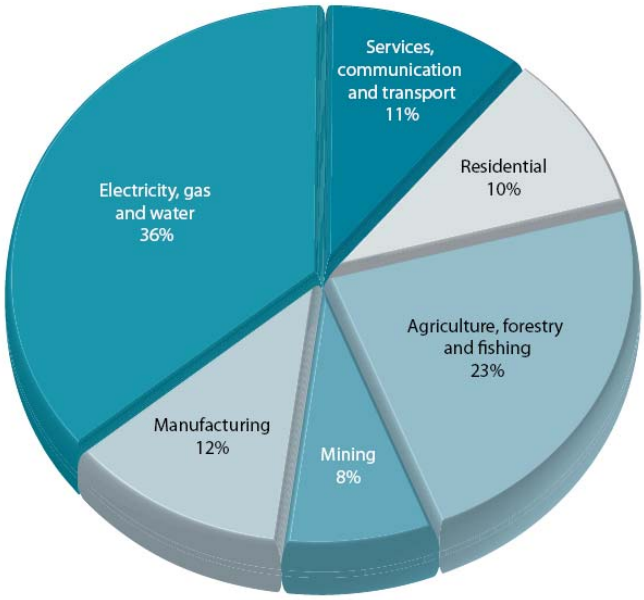

Figure 2: Australia's 2005 Greenhouse gas emissions by sector.
Source: CPA Australia (2008).

In order to reduce greenhouse gas emissions a variety of policies have been put in place in various countries and by international agreements such as the 1997 Kyoto Protocol as well as multilateral and bilateral agreements. For example, Australia has bilateral partnerships with China, South Africa, United States, New Zealand, European Union and Japan on practical actions relating to climate change.

Carbon Trading Policy

Carbon trading is essentially a market mechanism which brings the cost of emissions associated with various activities into account. This emission reduction can be achieved using other mechanisms such as regulation and corresponding policing thereof or imposing a cost such as taxation, but a market mechanism is regarded as a more efficient means of achieving the emission reductions as a whole.

A whole new market has developed for the trading of carbon credits which allows polluting industries to offset their pollution levels by buying carbon credits. Some predictions are that the carbon market will become the biggest commodity market in the world with a current value of approximately $30B and a potential future market of $1trillion within a decade (Green Invest Ltd, 2008). de Boer (2008) indicates that the carbon market is booming worth 30 billion euro in 2006, 40 billion euro in 2007 and 63 billion euro predicted in 2008. For some carbon trading is inappropriate and does not force the polluting industry to cut emissions, but rather push the onus on to someone else (very often developing countries) by acquiring carbon offset credits on the market. The view is one of forcing all firms to reduce their emissions by a specified amount which in total may result in higher emission reductions, but then there is the difficult task of enforcement and its policing. A response is that emissions and their impact on the global climate is international and knows no boundaries and thus a global view should be adopted. The individual firm's emissions are not the focus but rather a reduction of global emissions.

DPI (NSW) (2005) explained that a carbon market provides for the buying and selling of contractual commitments or certificates representing specific amounts of carbon-related emissions. The level of permitted emissions is capped, comprise reductions in emissions from new technology, energy

efficiency or renewable energy, or comprise offsets against emissions such as carbon capture in biomass (carbon sequestration).

The third aspect is of greater relevance to this paper because it provides a market for carbon credits generated by biomass including trees. For carbon offsets and forestry, the Kyoto Protocol identifies three elements namely deforestation,[2] afforestation,[3] and reforestation[4] (UNFCCC, 2001). With deforestation being the major source of emissions due to land use changes, it is not surprising the Stern Report's (Stern, 2006) key elements of future international frameworks includes action to reduce deforestation, with the loss of natural forests globally contributing more to emissions annually (18%) than the transport sector (14%). Most deforestation occurs in tropical countries with land converted to agricultural use on a slash and burn basis. Brazil, Indonesia, Sudan, Myanmar and Zambia lead the list of countries with the largest annual net loss in forest area for 200 to 2005 (Stern, 2006). The Stern Report (Stern, 2006) and The Garnaut Climate Change Review (Garnaut, 2008) highlighted the need for an international response based on shared comprehension of long-term goals and agreement on frameworks for action. To date not all countries have signed the Kyoto agreement and different trading schemes have developed recognising different carbon offsets.

Downie (2007) lists the main emissions trading systems as The Kyoto Protocol, the European Emission Trading System, and the proposed USA Regional Greenhouse Gas Initiative (RGGI)[5]. Downie (2007) indicates that whilst the other two accept all three categories of permitted emissions, the European Union excludes all forestry projects. However, the Kyoto protocol does not allow avoided deforestation projects, accepts forestry as eligible until 2012 and places a 1% per annum on the amount of credits that can be created by forestry projects. There have been voluntary carbon markets dealing with carbon offsets in the interim period. Under the Kyoto Protocol, which created the Joint Implementation (JI) and Clean Development Mechanism (CDM), all three permits could be traded including forestry that plants trees but disallowing those avoiding deforestation. Additionally, all projects must be guaranteed for between 5 and 60 sixty years with credits replaced from other projects when they expire. The Gold Standard, an organisation established in Switzerland by NGOs excludes all forestry projects (The Gold Standard, 2008).

Downie (2007) indicates that the most popular type of carbon offset in Australia is tree planting. This could be in the form of commercial trees that are harvested (approximately 50% of a tree's dry weight is carbon) as well as the offset associated with using wood waste as biofuel, combined with the carbon credits associated with growing the trees which would have to be replanted once harvested. This results in an increasing pool of plantings of various ages. Thus the concept is one of an ever-expanding pool of trees as opposed to looking at individual forests. There is also the option of farmers planting trees with the intention of not harvesting (environmental plantings) that could be generating some income in the form of carbon credit market returns. Of great importance is the development of an accounting process and the regular auditing thereof to ensure public confidence in the scheme.

The recently (late 2007) elected Australian Labor government signed the Kyoto agreement on 3rd December 2007. The Australian Federal government currently has no operational national emissions trading system although there are plans to enact legislation for emissions trading in 2009 enabling inter alia a national registry and administrator (Department of Climate Change, 2008). Currently individuals and firms can participate in carbon offset businesses on a voluntary basis. The Federal government did establish 'Greenhouse Friendly' in 2001, a mechanism by which greenhouse neutral products and services can be traded voluntarily. This system allows all three categories of offset permits (renewable energy, energy efficiency and forestry), with reforestation (must be maintained for

[2] Direct human induced conversion of forested land to non-forested land

[3] Direct human induced conversion of land not forested for at least the previous 50 years.

[4] Direct human induced conversion of non-forested land to forested land but which was originally forested land subject to the limitation of the reforestation being on lands that were not forested on 31 December 1989.

[5] RGGI is currently being developed by nine USA states for power plant emissions.

70 years) and deforestation avoidance accepted under forestry. An Australian state, New South Wales (NSW), developed its own trading scheme (Greenhouse Gas Abatement Scheme – NSW GGAS) with trading taking place on the Australian Carbon Exchange (ACX). GGAS permits all three types of voluntary carbon offset projects but excludes 'avoided deforestation'. The lack of a mandatory accreditation scheme and national trading system can lead to dubious market projects.

Biofuel Policy

Another aspect associated with global warming and emission reduction is the search for alternatives to fossil fuels for energy generation. Whilst the concept of a sustainable, renewable source of power in the form of biofuels initially sounds particularly encouraging, this requires further analysis. An important aspect to any biofuel production is its sustainability. According to O'Connell,Graham *et al.* (2007), the lack of sustainability of fossil fuels and their generation allows the potential of bioenergy, biofuels and bioproducts to receive increasing attention. Of course sustainability is a comprehensive concept encompassing many aspects including scientific aspects, life cycle and economic viability.

According to Howard and Olszak (2004) Australia faces a number of problems including reducing agricultural productivity, water quality and health of the environment due to dryland salinity. Additionally, there is the problem of climate change and global warming together with all the associated impacts on aspects including economic growth and the environment. A policy associated with the growing of deep-rooted perennials in landscapes that were previously cleared for agricultural activities in order to counter dryland salinity is driven by off-farm social and environmental benefits but imposes a direct cost on farmers by reducing their income. However, if these plantings were associated with a policy of creating a sustainable input into biofuels as a source of renewable energy and as a product that could be traded on carbon markets, the farmers may find this a more agreeable alternative.

Biofuels have been utilised for a substantial time period with sugar crops accounting for 61% of the world's ethanol production and other biomass being increasingly used (Batten and O'Connell, 2007). By the end of the 1980s, the use of ethanol in Brazil had a larger market share in the transportation sector than petrol with a mix of 25% ethanol in petrol (O'Connell,Graham *et al.*, 2007). The use of corn for biofuels is increasing by approximately 30% per annum in the USA (O'Connell,Batten *et al.*, 2007). Biofuels have received increased attention in recent times due to global warming and the world's reliance on fossil fuels.

The Commission of the European Communities (2008) proposal provides for a binding target of 20% of energy consumption from renewable sources and a minimum of 10% for biofuels in transport for each Member State by 2020. A 2003 European Parliament directive (2003/30/EC) sets a biofuel target of 5.75% for transport by 31 December 2010. The European Community is essentially setting a policy that is to be applied by Member States, but which has global implications and can thus be described as a 'global policy rather than a European policy'. The Commission of the European Communities (2008) proposal states that it is based on 'thorough impact assessment processes with widespread consultation with stakeholders: numerous meetings with stakeholders on the key issues of the proposal including barriers to the development of renewable energy uses, biofuels sustainability and flexibility measures in meeting renewables targets'. The proposal also mentions four public consultation exercises having taken place via the internet. The question here is to what extent there was consultation with small-scale farmers and native forest users in the South East Asian countries such as Indonesia where internet facilities may not be readily available.

Paragraph 38 (p. 18) of the Commission of the European Communities (2008) proposal requires wetlands and continuously forested areas to be included in the category that should not be converted for the production of biofuels and other bioliquids. Paragraph 39 (p. 18) mentions the need to establish appropriate criteria to protect Member State bio-diverse lands, and argues that any incentives for biofuels or bioliquids should not encourage their destruction. Paragraph 40 (p. 18) requires European

Member States comply with EU environmental requirements in terms of the production of biomass from which biofuels and bioliquids are to manufactured, but states that applying such criteria to imports from third world countries is administratively and technically infeasible.

Is the generation of the underlying biomass such as sugar, corn and palm oil carbon neutral and what impact does it have in the local communities where the particular biomass crop is planted? One may ask what this has to do with forestry. In countries including Brazil and USA there is potential for the well-established ethanol production for fuel based on crops such as sugar and corn to displace other crops and farming activities, as well as for the removal of native forests and replacement by other biofuel crops.

In Indonesia, large tracts of native forests have been removed in order to plant large plantations of Oil Palms to produce palm oil. This not only impacts on the local aesthetics and removes land from its former native forest usage but also discourages the growing of timber or environmental plantings of forest trees due to the demand for Oil Palm plantings from European Union members.

Thus the well intentioned carbon abatement policy requiring EU countries to meet specific biofuel usage requirements has had not only resulted in the destruction of mature native rainforests, but also negatively impacts on all fauna and flora associated with the rainforests as well as the local indigenous communities which use the rainforest in many different ways. What may well have been a policy aimed at reducing greenhouse gas emissions has had many other negative impacts at the local level.

O'Connell,Batten *et al.* (2007) highlighted that a move to full-scale biofuel production in Australia, as has happened in other countries, holds numerous opportunities but also risks. In their report O'Connell,Batten *et al.* (2007) dealt with a number of issues including the drivers of a biofuel industry which include to what extent biofuels can reduce greenhouse gas emissions; provide fuel security; provide land and water benefits; improve human health; and provide benefits to regional Australia. O'Connell,Batten *et al.* (2007, p.17) concluded that 'the emergence of a "main-game" biofuel industry (which contributes 10% - 20% of transport fuels) has the potential to significantly shift agriculture, forestry, environmental and fuel value chains towards the emergence of a biofuel economy.'

Of course taxation policy can also play an important role in climate change policy. For instance, in order to increase promotion of new technology directly CPA Australia (2008) suggested the following tax incentives can be used:

- Upfront investment allowance of 20% for expenditure on low-emissions technology;
- Accelerated depreciation allowances for expenditure on replacement or upgrading of existing plant to low emission plant;
- A higher research and development tax concession for investment into low emission technology; and
- Removal of any disincentives the GST or state taxes may impose on green technology deployment (this would have to involve the removal of the taxes themselves).

The following are some of the real and perceived negative impacts of taxation and climate control policy development on local areas:

- Large tracts of monoculture forests being planted;
- Reduced water flow in creeks if more than about 20% of the catchment area is planted to trees (Henschke, 2006);
- Replacement of other crops and animal production with trees such as the 2007 incursion of forestry MIS into the North Queensland sugar cane growing area (Lightfoot (2007a) and Punshon (2008));

- In many instances short-term rotation trees species being planted with low-value wood chips or pulp being produced and generally exported without any value-adding taking place;
- Inappropriate use of fertile agricultural food crop land for timber;
- Clearing of natural vegetation to grow biofuel crops including palm oil. O'Connell,Batten *et al.* (2007) observed that the area under palm oil has increased by 43% since the 1990s. This is of concern as a natural source of carbon storage is removed and replaced with a source of 'sustainable' fuel for energy generation, and because it has social and biodiversity impacts and essentially counters the benefits the European biofuel policy attempts to achieve. The Roundtable for Sustainable Palm Oil (RSPO) has been established to promote sustainability through a code of conduct for its members;
- Additional competition for agricultural land from 'cashed-up' MIS and for carbon trading;
- Negative impact in the local economy such as reduced demand for workers, education, health and services provided by small business;
- Increased competition for biomass crops including those used as livestock feed and for human consumption resulting in the increase in prices of food for human consumption. Examples include doubling of the price of corn in the USA in 2006-07 and of canola oil in Europe attributed to the competition from biofuels (O'Connell,Batten *et al.*, 2007). There are also further impacts on the prices of products for which these commodities are inputs as well as the prices of those products that are being replaced with the plantings of these higher-priced crops for biofuels (substitution effect).
- Rural depopulation of small communities due to a reduction in the workforce and population below the critical mass required to sustain complementary activities, both commercial and social (Eliot, 2007).

There are of course others such as Howard and Olszak (2004) who regard the development of renewable energy technology as having highly favourable impacts. Howard and Olszak (2004) indicate that the benefits of bioenergy would be economic, social and environmental including job creation in rural communities to grow, maintain, harvest and process the biomass crop; contribute to Australia's carbon emission targets; improve salinity control and improved biodiversity and regeneration.

CONCLUSION

There should be no doubt whatsoever that national and international policy development needs to undertake a greater level of consultation with local communities whose intimate knowledge of the area and communities in which they live, can play an important role in 'getting in right' the first time around. The personal and commercial interest of stakeholders and the political bias at various levels ensures this is a long-term process but is required in order to develop policies that are the best for all concerned.

Policies developed in isolation and with limited consultation can obviously have much wider implications than municipal, state or national boundaries, especially with the move towards globalisation and free trade. Policies that allow CO_2 emitting firms in one part of the world to counter their greenhouse impact in another part of the world through the purchase of carbon credits are an example of this. The impacts can be long-term and localised or international and much broader than intended. The use of taxation policy combined with the effects of biomass production for carbon trading and biofuels has the potential to have a great impact on many areas of our lives including the forestry sector, agriculture, the environment, food production and prices, and the economy of each and every country. This potential impact should highlight the need for broader consultation to ensure local needs are also catered for in policy development.

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